

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/038707 A1

(51) International Patent Classification⁷: **G11B 7/09**,
7/125, 7/135, G02B 27/00, G01M 11/00

(21) International Application Number:
PCT/IB2003/004355

(22) International Filing Date: 1 October 2003 (01.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02292625.7 23 October 2002 (23.10.2002) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **HENDRIKS, Bernardus** [NL/NL]; 156 Boulevard Haussmann, F-75008 Paris (FR).

(74) Agent: **CHAFFRAIX, Jean**; Société Civile SPID, 156 Boulevard Haussmann, F-75008 Paris (FR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

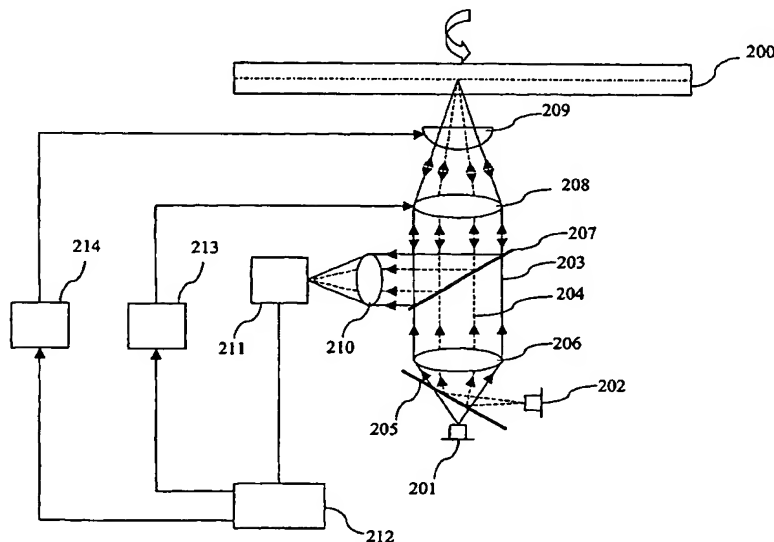
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SPHERICAL ABERRATION DETECTION



(57) Abstract: The invention relates to an optical device in which a spherical aberration is detected. The optical device comprises means (206, 208) for focussing a first radiation beam (203) having a first numerical aperture and a second radiation beam (204) having a second numerical aperture lower than the first numerical aperture, on an information carrier (200). The optical device further comprises means (211) for detecting a first focus error signal corresponding to the first radiation beam and a second focus error signal corresponding to the second radiation beam. In order to measure the spherical aberration of the first radiation beam, due to a variation of the cover layer thickness of the information carrier, the optical device comprises means (212) for measuring a spherical aberration of the first radiation beam from the first and second focus error signals.